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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,873	09/12/2003	Michael Alex	KOM004-2C US	8666

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EXAMINER

DAVIDSON, DAN

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/660,873

Applicant(s)

ALEX, MICHAEL

Examiner

Dan I Davidson

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 33-84 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,33-57 and 61-67 is/are allowed.
- 6) ☒ Claim(s) 58-60,68,69,71-76 and 78-82 is/are rejected.
- 7) ☒ Claim(s) 70,77,83 and 84 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 09122003
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The information disclosure statement filed September 12, 2003 has been received and has been considered and made of record.
2. Claims 2-32 have been canceled in the preliminary amendment.

### ***Priority***

3. The instant application is a continuation of application serial number 10/213,337 filed August 5, 2002, now United States Patent Number 6,628,466, which is a continuation of application serial number 09/369,646 filed August 6, 1999, now United States Patent Number 6,429,984.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 82 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation at this claim is not disclosed in the disclosure as originally filed.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2651

7. Claims 58-60, 71 and 78-79 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 58; "the medium" has a lack of antecedent basis. Claims 59-60 are rejected since they depend on claim 58.

Re claims 71 and 78-79; the terminology "a few" in claim 71 is indefinite. So is the terminology "about to contain" in claims 78-79.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 68–69, 72-76, and 80-81 are rejected under 35 U.S.C. 102(e) as being anticipated by Ito (US 5,923,485 A).

Re claims 68 and 80; Ito discloses a method for storing information on a magnetic disk (col. 6, lines 16-18), the method comprising: writing the information to the magnetic disk (col. 6, lines 16-18), at least a portion of the information being written to a group of grains in a track at a density sufficiently high to cause a change in direction of magnetization of at least some of the grains with passage of a year (col. 7, lines 22-28; Fig. 7; weakening of the recorded magnetization given no operation conducted by the

Art Unit: 2651

host side is inherently a result of a change in direction of magnetization of at least some of the grains); and automatically refreshing at least the portion of information, using at least two refresh indicators (col. 9, lines 5-13; timing and amplitude refresh indicators).

Re claim 69; Ito discloses that the portion of information comprises data (col. 7, line 20; "standardized reproduced output"). It is inherent that there be critical information such a filing and directory information on the disk for the disk to be operational.

Re claims 72 and 81; Ito discloses using an amplitude of a readback signal as a refresh indicator (col. 9, lines 7-13).

Re claims 73-74; Ito discloses that the change in direction of magnetization results in loss of amplitude of the readback signal by more than 10 percent (see Fig. 7).

Re claim 75-76; Ito discloses that the refresh indicator is related to a date of performance of the "writing the information to the magnetic disk" and that it is saved contemporaneous with performance of the "writing the information to the magnetic disk." (col. 9, lines 13-15; since the "reference signal" is recorded at the time information is rewritten, the limitations at these claims are satisfied).

***Allowable Subject Matter***

10. Claims 1, 33-57, and 61-67 are allowed over the prior art of record.

Art Unit: 2651

Re claims 1, 61, 64, and 66; the prior art of record, and in particular Ito (US 5,923,485 A), fails to teach or suggest that the spacing between adjacent magnetized locations of the magnetic disk is smaller than 50nm whereby the data for a recording density is greater than 500kFCI.

Re claim 52; the prior art of record, and in particular Ito (US 5,923,485 A), fails to teach or suggest a disk having at least one property selected from the group of properties listed in the claim.

11. Claims 58-60 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action for the same reason given for the allowance of claim 1.

12. Claims 70, 77, and 83-84 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Re claim 70; the prior art of record, and in particular Ito (US 5,923,485 A), fails to teach or suggest that the diameter of at least one grain in the group of grains is less than 100 angstroms.

Re claim 77; the prior art of record, and in particular Ito (US 5,923,485 A), fails to teach or suggest that the refresh indicator indicates that the information in the magnetic disk contains a soft error.

Re claim 83; the prior art of record, and in particular Ito (US 5,923,485 A), fails to teach or suggest that at least one of the refresh indicators is related to a high-frequency component of a readback signal.

Art Unit: 2651

Re claim 84; the prior art of record, and in particular Ito (US 5,923,485 A), fails to teach or suggest that at least one of the refresh indicators is related to a number of errors.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gillis et al (US 6,266,199 B1) teach that reversible signal degradation due to thermal erasure results in recovery of the signal quality by a rewrite operation and continued use of the data track location.

Ahrens (EP 623929 A2) teaches a refresh mode for when a read-out level of data lies below a set value.

Morton (WO 89/06428) teaches an optical disk degradation monitoring system that automatically avoids loss of data due to degradation of the optical disk over time.

Lu et al (IEEE Transactions on Magnetics, Vol. 30, No. 6, Nov. 1994) teach the limitations on recording density imposed by thermal stability.

14. The following art is not prior art but is being cited since it is considered pertinent to applicant's disclosure.

Li (US 6,700,723 B2) teaches monitoring the decay of magnetic domains in a magnetic disk by determining the difference between high frequency and low frequency reference signal degradations and refreshing the magnetic domains accordingly.

Art Unit: 2651

Cross (US 6,603,617 B1) teaches compensating for amplitude and BER loss due to media thermal decay by increasing the bias current until it hits a certain limit and then rewriting the information.


Strothmann et al (WO 03/047248 A1) teach searching for errors in data on a recoding medium and rewriting the data back to the recording medium.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan I Davidson whose telephone number is (571) 272-7552. The examiner can normally be reached on Mondays, Tuesdays, and Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth, can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**DD**  
Dan I Davidson  
March 31, 2005

  
**DAVID HUDSPETH**  
SUPERVISORY PATENT EXAMINER  
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